

Peter M.K. Frost (OSB #911843)  
Western Environmental Law Center  
1216 Lincoln Street  
Eugene, Oregon  
Tel: 541-359-3238  
Fax: 541-485-2457  
Email: frost@westernlaw.org

Attorney for Plaintiffs

UNITED STATES DISTRICT COURT  
DISTRICT OF OREGON  
EUGENE DIVISION

MCKENZIE FLYFISHERS,  
STEAMBOATERS,

Plaintiffs,

vs.

BRUCE MCINTOSH, SCOTT  
PATTERSON, OREGON DEPARTMENT  
OF FISH AND WILDLIFE,

Defendants.

Case No.: 6:13-cv-02125-TC

**PLAINTIFFS' OPPOSITION TO  
DEFENDANTS' MOTION FOR  
SUMMARY JUDGMENT, AND  
REPLY TO DEFENDANTS'  
OPPOSITION TO PLAINTIFFS'  
MOTION FOR SUMMARY  
JUDGMENT AND INJUNCTIVE  
RELIEF**

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Plaintiffs McKenzie Flyfishers et al. hereby respectfully file this memorandum opposing the motion for summary judgment filed by State Defendants Bruce McIntosh et al. (ODFW) and replying to their opposition to Plaintiffs' motion for summary judgment and injunctive relief.

### Argument.

#### A. McKenzie Flyfishers Has Proven Take.

##### 1. Evidentiary and Legal Standards to Prove Take.

To prevail on an ESA Section 9 claim, a plaintiff must prove by a preponderance of the evidence that the defendant's actions have caused or are causing take. Defenders of Wildlife v. Bernal, 204 F.3d 920, 925 (9th Cir. 2000).<sup>1</sup> The preponderance of the evidence standard means the plaintiff "must provide evidence establishing that it is 'more likely than not'" that a result did or will occur. Sanchez v. Monumental Life Ins. Co., 102 F.3d 398, 404 (9th Cir. 1996). As "the '[c]onventional rule of civil litigation,'" the preponderance of the evidence standard may be met by "direct or circumstantial evidence." Postal Service Bd. Of Governors v. Aikens, 460 U.S. 711, 714 n.3 (1983). The Supreme Court has stated: "The reason for treating circumstantial and direct evidence alike is both clear and deep rooted: 'Circumstantial evidence is not only sufficient, but may also be more certain, satisfying and persuasive than direct evidence.'" Desert Palace, Inc. v. Costa, 530 U.S. 90, 100 (2003) (citation omitted).

It is undisputed that when NMFS adopted the regulation to define "take," it stated that "any habitat modification that significantly impairs spawning, rearing, or migrating does constitute harm to the species and is a take," and gave as an example "[r]eleasing non-indigenous or artificially propagated species into a listed species' habitat or where they may access the habitat of listed species." 64 Fed. Reg. 60,272, 60,730 (Nov. 8, 1999) (emphasis added); see

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<sup>1</sup> To prevail on a Section 9 claim, a plaintiff must show that a defendant is "in violation of" Section 9, which "connotes past, present, and future violations." Stout v. U.S. Forest Serv., 869 F. Supp. 2d 1271, 1280–81 (D. Or. 2012) (citing 16 U.S.C. § 1540(g)(1)(A) (noting that the defendants "confuse[d] the forward looking nature of the relief offered by the ESA's citizen suit provision and the violation of the Act that justifies the injunction"). It is not necessary for a plaintiff to show that future take will occur to prevail under Section 9; rather, if the plaintiff proves "past or present harms" to the species, it thereby establishes liability, and then "the relative likelihood of future harm, as well as the need of the species for recovery from past harm, are factors the court should consider in tailoring the scope of injunctive relief." Id.

Swinomish Indian Tribal Comm. v. Skagit Co. Dike Dist. No. 22, 618 F. Supp. 2d 1262, 1269 (W.D. Wash. 2008) (citing Federal Register explanation of take to establish take standard). Accordingly, McKenzie Flyfishers must prove that it is more likely than not that hatchery Chinook significantly have or are impairing spawning, rearing, or migration of wild Chinook in the McKenzie River. 50 C.F.R. § 17.3 (definition of “harm”).

ODFW is incorrect that because McKenzie Flyfishers alleges habitat modification as the means of take, it must then prove that hatchery fish have a “population-level effect” on wild Chinook in the McKenzie, meaning “a decline in the population of a species.” Ds’ Opp. at 13. The standard for take in the Ninth Circuit is whether “one or more” individual members of a species has been or will be harmed by the defendant’s actions. Or. Natural Desert Ass’n v. Tidwell, 716 F. Supp. 2d 982, 1005 (D. Or. 2010). For example, in Bernal, the Ninth Circuit stated that to succeed on their claim that building or operating a school in Arizona would take ESA-listed pygmy owls by modifying their habitat, the plaintiffs had to prove that the building or operation of the school “would harm a pygmy-owl by killing or injuring it, or more likely than not harass a pygmy-owl by annoying it to such an extent as to disrupt its normal behavioral patterns.” Id., 204 F.3d at 925 (emphases added). Similarly, in Forest Conservation Council v. Rosboro Lumber Co., 50 F.3d 781 (9th Cir. 1995), the Ninth Circuit enjoined construction of a road in Oregon, because it would facilitate logging that would modify habitat for and likely harm a single pair of northern spotted owls, and therefore cause take. Id. at 783-85.

Again, in Marbled Murrelet v. Babbitt, 83 F.3d 1060 (9th Cir. 1996), the Ninth Circuit held that logging of 137 acres of a 440-acre forest stand in California would likely cause take of individual marbled murrelets, by impairing their breeding, and increasing the chance they would be prey. Id. at 1067. Notably, the Ninth Circuit concluded that take would likely occur because of proof that there had been about 100 murrelet sightings over a three-year period in the 137 acres of habitat in which about half the trees would be cut; the showing that the likely presence of nesting murrelets and reasonable certainty of harm if their habitat was logged was enough to prove take. Id. at 1067–68. In none of these cases did the Ninth Circuit state or suggest that to prove take via habitat modification, plaintiffs must prove a “population-level effect” on the

affected species. In turn, Judge Haggerty similarly found take of listed steelhead trout from cattle grazing where cattle trampled streambanks and removed streambank vegetation, thereby causing “significant habitat degradation”—elevated temperatures and poor instream conditions, which in turn harmed steelhead—without any requirement of showing of a population-level effect.

Tidwell, 716 F. Supp. 2d at 1005–06.<sup>2</sup>

2. There is Ample Proof of Take.

a. Undisputed Evidence of Take.

The Court should evaluate the evidence proving take in light of important undisputed predicates that predate this litigation, sometimes by many years. It is undisputed that spring Chinook in the Upper Willamette River ESU include seven independent “populations,” five of which “are facing critically high extinction risks,” including in the Molalla, North Santiam, South Santiam, Calapooia, and Middle Fork Willamette Rivers. A.R. 035092.<sup>3</sup> In fact, two of

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<sup>2</sup> ODFW relies on Coalition for a Sustainable Delta v. John McCamman, 725 F. Supp. 2d 1162 (E.D. Cal. 2010), where the plaintiffs alleged that state defendants protected (non-native and invasive) striped bass in the Sacramento River delta, where they prey on and take listed Chinook. Id. at 1164-66. The court stated that, in its view, it was “unclear” whether a fish that preys on a fish causes “direct harm” or a “form of habitat modification,” but found the latter, because “a fish cannot ‘take’ another fish.” Id. at 1167-68. But ultimately that court’s discussion of the take standard is dicta because it did not matter whether striped bass caused take of some Chinook, or had a “population-level effect” on Chinook. As the court stated: “This case involves the entire striped bass population in the Delta and its alleged predatory impact on the entire populations of listed winter and spring-run Chinook.” Id. at 1170.

Similarly, Palila v. Hawaii Dept. of Land and Natural Resources, 852 F.2d 1106 (9th Cir. 1988), does not stand for the proposition that proving take requires proving harm or harassment to an entire population of a listed species. As in Coalition, that case concerned take by habitat modification of the entire species of a bird “found only on the slopes of Mauna Kea” in Hawaii, and that “depend[s] entirely for [its] existence” on that habitat. Id. at 1107 & 1109.

<sup>3</sup> ODFW asserts that “the Corps is a dam operator with no administrative authority under the ESA, not a fish manager or an administrator whose opinions are entitled to some weight. All Corps-generated comments should be viewed with that in mind.” Ds’ Opp. at 3. To the contrary, the Corps as owner and funder of the McKenzie Hatchery, and operator of Cougar Dam and reservoir, has the substantive duty under Section 7 to not cause jeopardy and under Section 9 to not cause take of wild Chinook. San Luis & Delta-Mendota Water Authority v. Jewell, 747 F.3d 581, 592 & 643 (9th Cir. 2014) (en banc). Further, the certified Administrative Record, which



these populations are “effectively extinct.” A.R. 038437. Only the wild Chinook populations in the Clackamas and McKenzie Rivers survive with some resilience. A.R. 037664; Plfs.’ Ex. F at 13. And only the wild Chinook population in the McKenzie is designated a “genetic legacy” population, meaning “of the highest biological significance.” A.R. 033395, 038538.<sup>4</sup>

“Populations that are determined to be genetic legacies should be considered for prioritization in recovery efforts because they retain the most intact representatives of the genetic character of the ESU.” Plfs.’ Ex. A at 6. Yet even in the McKenzie, which once may have accounted for fully one-half of all wild Chinook in the Upper Willamette River basin, A.R. 040575, NMFS found that, by 2013, “[t]he status of natural-origin spring Chinook salmon in the McKenzie River [] declined recently to probably the lowest levels on record,” approximating 1,100 wild fish. A.R. 003325.<sup>5</sup>

It is also undisputed that NMFS has found that within the Upper Willamette River ESU, “large numbers of hatchery-origin fish spawning with those of natural origin have created a risk of genetic introgression.” A.R. 035107-08. In 2000, NMFS found that, to address that risk and avoid jeopardy to wild Chinook in the McKenzie River, “[t]he Corps and ODFW shall develop

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includes documents with Corps’ comments, is “entitled to a presumption of administrative regularity.” McCrary v. Gutierrez, 495 F.Supp.2d 1038, 1041 (N.D. Cal. 2007).

<sup>4</sup> Congress enacted the ESA in part precisely to preserve this genetic legacy. In 1973, the House Committee on Merchant Marine Fisheries issued a report on H.R. 37, a bill that was a forerunner to the ESA. The report states:

From the most narrow possible point of view, it is in the best interests of mankind to minimize the losses of genetic variations. The reason is simple: they are potential resources. They are keys to puzzles which we cannot yet solve, and may provide answers to questions which we have not yet learned to ask.

H.R. REP. NO. 412, 93d Cong., 1973.

<sup>5</sup> ODFW blames the loss of wild Chinook in the McKenzie River basin on “dams and loss or degradation of habitat,” Ds’ Opp. at 19, but in fact, in 2008, NMFS found that “[i]n the McKenzie and Clackamas watersheds, adult spring Chinook have volitional access to most of the historically occupied headwater habitat where they oversummer and spawn. . . . Even though some impassable dams (e.g., Blue River, Cougar, and Carmen-Smith in the McKenzie, Oak Grove in the Clackamas) were built on their tributaries, each has lost less than 5% of its historical adult holding and spawning habitat.” A.R. 035092 (citations omitted).

plans and methods to capture and remove known hatchery Chinook so that they do not spawn naturally” in the river. A.R. 040655-56. That was to be achieved by establishing a “wild fish sanctuary” above Leaburg Dam because, at that time, it was “presumed that hatchery fish straying above Leaburg Dam was minimal.” A.R. 035875, 034909. But after fin-clipped hatchery adult Chinook began returning to the McKenzie River in 2002, NMFS found that “a substantial portion of the Chinook that migrated upstream of Leaburg dam were of hatchery-origin,” including in 2003 of up to 36% of all Chinook. A.R. 034909-10. Based on estimated pHOS of 36% above Leaburg Dam alone, NMFS stated: “Genetic introgression of hatchery fish into the wild populations in the McKenzie River is of significant concern and is the most critical hatchery issue in this consultation.” A.R. 034909.

Ultimately, NMFS established a maximum of 10% pHOS standard in the wild as an RPA to avoid jeopardy and, because the ITS incorporates the RPA, the permissible limit of incidental take. A.R. 035182, 035291.<sup>6</sup> Ten percent is the absolute maximum. In fact, NMFS stated that “[i]t is necessary to reduce the effects of hatchery fish on this population to the lowest extent possible (0-10%) in order to restore this population and to be able to evaluate its sustainability without the continual infusion of hatchery spawners.” A.R. 035182 (emphasis added).

NMFS based its significant concern about genetic introgression on undisputed science. NMFS stated: “There are substantial risks with having hatchery fish interbreeding with the wild population. . . . The genetic risks are well documented in the literature. Naturally spawning hatchery fish can also confound the evaluation of the health of the wild population because non-natural, hatchery fish are continually spawning in the wild. . . . Both of these risks are concerns in the McKenzie population.” A.R. 035182. Again, in the 2011 Recovery Plan, NMFS stated:

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<sup>6</sup> ODFW asserts that RPA 6.1.4 is meant to reduce “the proportion of hatchery-origin spawners in the McKenzie River above Leaburg Dam.” Ds’ Opp. at 7. However, RPA 6.1.4. provides the pHOS standard must be met “in the wild” in the McKenzie River basin, not just above Leaburg Dam. A.R. 035182. The RPA is thereby consistent with ESA regulations, which define “jeopardize the continued existence” to mean “to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild,” 50 C.F.R. § 402.02, and the Ninth Circuit’s interpretation of the ESA. Trout Unlimited v. Lohn, 559 F.3d 946, 957 (9th Cir. 2009) (A purpose of the ESA “is to preserve the ability of natural populations to survive in the wild”).

“[H]atchery fish continue to dominate [Upper Willamette River] Chinook production.” A.R. 037689. “New data collected since the last [Biological Review Team (BRT)] report have verified the high fraction of hatchery origin fish in all of the populations in the ESU (even the Clackamas and McKenzie have hatchery fractions above . . . viability thresholds).” *Id.* The Recovery Plan states: “The major concern with these hatchery programs is the negative effect hatchery fish spawning in the natural environment have on productivity and long-term fitness of naturally spawning populations.” *Id.* (internal citation omitted).

It is with this foundation that McKenzie Flyfishers demonstrate that hatchery Chinook take wild Chinook in the McKenzie River basin. At the outset, ODFW does not dispute that pHOS is currently the proxy by which genetic introgression of hatchery and wild fish is gauged. Native Fish Soc’y v. NMFS, 992 F. Supp. 2d 1095, 1105 (D. Or. 2014) (“The proportion of hatchery-origin spawners (pHOS or ‘stray rate’) is a key metric in determining the effects of a hatchery’s operations on wild populations.”). Indeed, the ITS that ODFW invokes to seek to shield itself from take liability itself adopts a maximum of 10% pHOS as the level of permissible take. A.R. 035291. pHOS is still used as a proxy for genetic introgression because, although more direct methods are available to genetically test hatchery and wild fish to determine introgression with greater precision, they are not currently used for Chinook in the McKenzie River basin. Declaration of Gordon Luikart, ¶¶ 46-49 (Dkt. #79).

The Ninth Circuit has upheld the use of a habitat modification proxy to determine take of individual members of a listed species when it is impractical to determine take otherwise. In Center for Biological Diversity v. U.S. Bureau of Land Management, 698 F.3d 1101 (9th Cir. 2012), the appellants asserted that an ITS did not specify the number of listed Lahontan cutthroat trout eggs and fry that could be harmed by a project and, therefore, illegally failed to state the required “amount and extent” of take. *Id.* at 1127. The Ninth Circuit stated that the “impracticality of quantifying this take is self-evident, in light of the very large number and minute size of fish eggs and fry.” *Id.* The Ninth Circuit upheld the use of numerical “habitat characteristics” proxies instead, including a “115 ft wide work area” and “10 higher-elevation waterbody crossings,” as long as “[m]ortality [was] limited to areas 200 feet upstream and

downstream of the isolated work area.” *Id.* at 1128. The fact that take and habitat modification are intimately related is reflected in the Ninth Circuit’s endorsement of habitat surrogates to define incidental take in lieu of a specific numbers of members of the species. “[T]he use of ecological conditions as a surrogate for defining the amount or extent of incidental take is reasonable so long as these conditions are linked to the take of the protected species.” *Ariz. Cattle Growers’ Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1250 (9th Cir. 2001).

Here, there is no dispute that pHOS in the McKenzie River basin remains significantly in excess of the 0-10% pHOS proxy for take. Until McKenzie Flyfishers filed this lawsuit, ODFW itself calculated pHOS in the wild in the McKenzie River basin by the “preferred method” of counting redds and clipped and unclipped spawner carcasses in the fall, and then verifying those data by checking otoliths of unclipped fish at a lab. A.R. 041002; Sharpe Dep. 32:22-33:3. ODFW employed this method from 2002-2010, and reported a mean pHOS of 44% for that decade. A.R. 029815. In 2012, pHOS was about 61% (A.R. 041135-66); in 2013, about 46% (A.R. 040987); and through November, 2014, but before otolith checks, about 61%. Declaration of Arlen Thomason, Ex. A (Dkt. #81).

ODFW asserts that McKenzie Flyfishers’ pHOS calculations are wrong, because they include redds and spawner carcasses above Cougar Dam. Ds’ Opp. at 30 (citing Sharpe Dec. ¶ 36 [declaring such an approach “absurd”]). But genetic introgression above Cougar Dam matters too, because some of the progeny of these outplants return as adults to spawn, and since they carry hatchery genes, they can transfer them to wild Chinook. In the BiOp, NMFS stated: “The continual outplanting of adult hatchery fish above Cougar Dam represents significant productivity and diversity risks to the McKenzie [wild Chinook] population because offspring from these outplanted fish (i.e., F1 hatchery fish) would be indistinguishable from natural-origin fish in the population. These fish would then spawn naturally in the population, thereby infusing hatchery genes into the wild population.” A.R. 035183 (emphasis added). Excluding pHOS from above Cougar Dam means, obviously, not accurately accounting for all sources by which hatchery genes may transfer into the wild population, especially above Leaburg Dam where these

adults will seek to return, into an area which in 2000 was required to be a “wild fish sanctuary.”<sup>7</sup> A.R. 035875. But even excluding redds and carcasses from above the dam, pHOS was still excessive at a mean of 39% from 2002 to 2010 (A.R. 029815, table), and roughly 64% in 2012, 39% in 2013, and 61% in 2014. Second Declaration of Arlen Thomason, Ex. D at 1.

Ultimately, for the purposes of determining whether take is occurring, the parties’ different pHOS estimates do not create a genuine issue of material fact precluding summary judgment as to liability. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986) (“the mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment”) (emphases original). Excluding pHOS above Cougar Dam, and employing a “weighted” methodology to determine pHOS, ODFW still concedes that pHOS “has been at an average of about 34% over the last 12 years.” Ds’ Opp. at 10 (citing Sharpe Dec. ¶ 36).<sup>8</sup> (This figure appears inconsistent with the latest HGMP, which states a weighted average pHOS of 41% for 2002-2012, excluding above Cougar Dam. Declaration of Steve Marx, Ex. 3 at 38 (Dkt. #92)). Regardless, ODFW’s estimates are significantly more than the 0-10% NMFS found necessary to restore wild Chinook, and near the 36% pHOS above Leaburg Dam that existed when NMFS found that “[g]enetic introgression of hatchery fish into the wild populations in the McKenzie River is of significant concern and is the most critical hatchery issue in this consultation.” A.R. 034909.

ODFW’s main argument is that genetic introgression measured by pHOS, even when significantly in excess of 10%, does not itself prove take. Ds’ Opp. at 17 (citing Tidwell, 716 F. Supp. 2d at 1005). In Tidwell, NMFS adopted an ITS setting numeric standards for habitat modification due to streambank alteration as a proxy for the level of permissible incidental take

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<sup>7</sup> The February, 2014 HGMP estimates pHOS above Cougar Dam at 79%. Plfs’ Ex. F at 12.

<sup>8</sup> Mr. Sharpe departed from the customary methodology and “weighted” his estimates of pHOS to account for, in his view, the ease or difficulty of seeing and therefore counting redds and spawner carcasses. Sharpe Dec. ¶¶ 15-16.

of steelhead trout from cattle grazing. Id., 716 F. Supp. 2d at 999 & 1005.<sup>9</sup> Judge Haggerty explained that, even when ITS standards are violated, “the exceedance of the ITS in and of itself does not” prove take, and “plaintiffs must still prove that take has occurred.” Id. at 1005. Judge Haggerty then evaluated the evidence in the record as to how often and how severely cattle violated the streambank standards. Id. at 1006. He also evaluated the importance of the steelhead habitat where the violations occurred. Id. Based upon this evidence, he ruled that “take” occurred on numerous allotments, granted the plaintiffs’ motion for summary judgment on their Section 9 claim, id., and later enjoined “any grazing in areas where past takes have occurred, and where [] data establishes the existence of bank alteration violations.” Or. Natural Desert Ass’n. v. Tidwell, No. 2:07-cv-01871-HA, at 6 & 11 (D. Or. Dec. 30, 2010) (Dkt. #521). In other words, having explained that exceedance of the streambank standards did not alone prove take, Judge Haggerty relied on habitat degradation in exceedance of those standards as evidence of take, and framed the injunction based upon where the standards were violated. Following the logic in Tidwell, here, pHOS significantly in excess of 10% in the McKenzie River is probative evidence of take, and an injunction should issue to protect wild Chinook in their critical habitat in the basin.

b. Circumstantial Evidence is Probative to Prove Take.

ODFW asserts that the Court should discount the evidence in this case proving take, because it is circumstantial instead of “empirical.” Ds’ Opp. at 16-18. ODFW continues that McKenzie Flyfishers fails to show that “harmful maladaptive genes exist in the McKenzie hatchery Chinook that do not exist in their wild counterparts.” Id. at 16. McKenzie Flyfishers do not bear the burden of performing genetic testing of individual Chinook salmon to meet their burden of proving that it is more likely than not that hatchery Chinook harm some wild Chinook in the McKenzie River. In the Sandy Hatchery case, for example, as evidence to support his finding that “it is undisputed that hatchery fish can pose a host of risks to wild fish,” Judge

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<sup>9</sup> The ITS designated a 20% bank alteration standard as the measure of indirect take on 13 livestock allotments that included streams that provide habitat for steelhead trout, but, on 10 allotments that had suffered previous overgrazing, “move triggers” and “end-point indicators” tightened the standard to 10% allowable alteration. See Tidwell, 716 F. Supp. 2d at 999.

Haggerty cited exclusively circumstantial and no “empirical” evidence, based on genetic tests or otherwise, including: (1) the 2012 NMFS Biological Opinion on the Sandy River Hatchery, which generally “describe[es] factors impacting wild fish populations including interactions between hatchery fish and wild fish that can result in hatchery fish out-competing wild fish and may alter behavioral patterns [and] genetic introgression,” Native Fish Soc’y, 992 F. Supp. 2d at 1104 (citing Sandy AR016947-56); (2) the 2008 declaration of ODFW’s Edward Bowles in National Wildlife Federation v. NMFS, No. 3:01-cv-00640-SI, 839 F. Supp. 2d 1117 (D. Or. 2011) (Dkt. #1633), stating that “genetic risks increase ‘when the proportion of the adult population that is hatchery fish increases over 5%’ and ecological risks ‘have been demonstrated when the proportion that is hatchery fish is over 10%,’” Native Fish Soc’y, 992 F. Supp. 2d at 1105; and (3) a 2004 report entitled “Hatchery Reform” by the Puget Sound and Coastal Washington Hatchery Reform Project, stating that “[s]tray rates as low as one to two percent for a large, segregated harvest program may pose unacceptable risks to natural populations.” Id. (citing Sandy AR021266). Ultimately, Judge Haggerty ordered that, because the release of 462,950 hatchery coho smolts caused a violation of more than double the 5% pHOS standard for coho (actual pHOS was 11.7%), there should be more than a one-half reduction in hatchery coho releases, to 200,000 smolts. Native Fish Soc’y v. NMFS, No. 3:12-cv-000431-HA, 2014 WL 1030479, \*4 (March 14, 2014). If the Court were to do the same thing here, *i.e.*, reduce the number of hatchery Chinook smolts to achieve a maximum of 10% pHOS, it would order that no more than 180,000 smolts could be released. A.R. 029821 (methodology to determine release number).

ODFW relies on a report and findings by its scientists that hatchery and wild Chinook in the McKenzie River basin have “remarkable genetic similarity” and that they found “no evidence that there are any maladaptive genes in the McKenzie River hatchery fish that did not exist originally in their wild counterparts.” Ds’ Opp. at 1-2. Dr. Luikart has twice rebutted these representations, with no direct response. Second Declaration of Dr. Gordon Luikart, ¶ 5. He testifies:



Dr. Johnson's study was not capable of determining differences in the frequencies of genes (or genome regions) under selection, in order to properly differentiate between wild and hatchery fish. As I previously declared: it is fundamentally insufficient to use solely microsatellite (DNA) allele frequencies to test whether significant adaptive differences exist between hatchery and wild fish, because the genetic structures (DNA sequences) that are assayed (only a small number of mostly non-functional genome segments) are not generally relevant to the important adaptations of the populations in question. My conclusion is fully supported by reports of the independent scientific panels I cited in my initial expert report and in my first declaration. In his rebuttal disclosures and in his declaration, Dr. Johnson has now twice failed to address or resolve the inconsistency between the clear limits of his study as acknowledged in the report, the findings of independent scientific panels, and what he declares.

Id. ¶ 5. As to any "genetic similarity" of hatchery and wild Chinook, Dr. Luikart declares:

It is inappropriate for ODFW to represent that hatchery and wild Chinook in the McKenzie River basin have 'remarkable genetic similarity.' ODFW cites empirical evidence regarding neutral genetic variation (or, in lay terms, variation in genetic structures that have no adaptive role) at a few microsatellite DNA loci that may be specific to the McKenzie River, but it is irrelevant to the central issue of genetics in this case: whether genes maladaptive for life in the wild have been selected for and amplified in the hatchery, and via introgression (gene flow), are increasing the frequency of such genes in the wild population, and thus reducing the fitness of the wild fish. This occurrence of maladaptive introgression is now an accepted general outcome likely to be caused by hatchery fish.

Id. ¶ 6. Ultimately, Dr. Luikart concludes: "In my view, the data related to pHOS levels and population levels of wild and hatchery Chinook in the McKenzie River strongly suggest that hatchery Chinook have harmed and continue to harm wild Chinook, by genetic introgression that manifests in reduced fitness (reduced survival and reproductive success)." Id.

B. ODFW Has Caused Take in Exceedance of the Level Allowed in the ITS.

The parties agree that agency action that complies with the terms and conditions in an ITS is exempt from take liability. Or. Natural Res. Council v. Allen, 476 F.3d 1031, 1034 (9th Cir. 2007) (citing 16 U.S.C. § 1536(o)(2)). ESA regulations require agencies to report to expert agencies as to an action's progress and its impact on species "[i]n order to monitor the impact of incidental take." Id. (quoting 50 C.F.R. § 402.14(i)(3)). "The agency must immediately reinitiate consultation with [the expert agency] if the amount or extent of incidental taking is exceeded." Id. (citing 50 C.F.R. § 402.14(i)(4), 402.16(a)).



The Ninth Circuit has stated that the “primary function” of an ITS “is to authorize the taking of animals incidental to the execution of a particular proposed action.” *Id.* at 1036. It has also stated that “Congress has clearly declared a preference for expressing [incidental] take in numerical form.” *Id.* at 1037. A numerical limit in an ITS “set[s] forth a ‘trigger’ that, when reached, results in an unacceptable level of incidental take, invalidating the safe harbor provision [of the ESA], and requiring the parties to re-initiate consultation.” *Ariz. Cattle Growers*, 273 at 1249 (second alteration original). By contrast, a “surrogate is possible only if no number may be practically obtained. The chosen surrogate, however, must be able to perform the functions of a numerical limitation.” *Allen*, 476 F.3d at 1038.

Here, the ITS states terms and conditions for the continued operation of hatcheries in the Upper Willamette River basin. A.R. 035291. The ITS states that “listed species are taken only at the levels, by the means, in the areas, and for the purposes stated in the Biological Assessment, HGMPs, and the RPA.” *Id.* (emphasis added). The term “level” means “an amount of something.” <http://www.merriam-webster.com/dictionary/level>; see *Allen*, 476 F.3d at 1038 (invalidating an ITS because it failed to quantify numerically the “level of take of northern spotted owls.”). The ITS incorporates RPA 6.1.4., and therefore states a permissible take “level” of 10% or less pHOS. A.R. 035182. This numeric standard serves the twin functions of ensuring that the amount of incidental take does not jeopardize wild Chinook, and as a trigger that invalidates the safe harbor provision of the ESA. See *Natural Res. Def. Council, Inc. v. Evans*, 279 F. Supp. 2d 1129, 1182 (N.D. Cal. 2003) (noting twin functions of ITS).

ODFW does not dispute that pHOS in the McKenzie River basin in the wild is significantly in excess of 10%. Its response is three-fold. First, it asserts that 10% is a “goal” and, apparently, therefore not binding. Ds’ Opp. at 2. Second, it asserts there is no deadline for achieving at most 10% pHOS. *Id.* Third, it asserts that reducing hatchery smolts will someday “likely” meet the standard. *Id.*

ODFW misapprehends the ITS. An ITS cannot be comprised of just goals: an ITS “must” include “‘terms and conditions’ with which the action agency must comply to implement the reasonable and prudent measures.” *Allen*, 476 F.3d at 1034 (emphases added; citations omitted).

Second, an ITS must include a numerical limit on incidental take (or a surrogate that “performs the functions” of a numerical limit) that applies at a specific time. See id. at 1039 (an ITS must “set a clear standard for determining when the authorized level of take ha[s] been exceeded”) (emphasis added). Otherwise, an ITS cannot function as the required trigger above which levels of take are unacceptable, and re-initiation of consultation is required. Ariz. Cattle Growers, 273 F.3d at 1249. For example, in Wild Fish Conservancy v. Salazar, 628 F.3d 513 (9th Cir. 2010), the Ninth Circuit reviewed a challenge to an ITS for the Leavenworth Fish Hatchery in the Wenatchee River basin in Washington. The Ninth Circuit noted that the ITS “set a clear numerical cap” of 20 listed bull trout prevented from spawning as the permissible level of take, but did not require monitoring to gauge if the cap was exceeded. Id. at 531-32. The Ninth Circuit held that “a numerical cap is useful only insofar as the action agency is capable of quantifying take to determine when the trigger has been met.” Id. at 532 (emphasis added).

Here, ODFW’s position that there is no deadline for the pHOS standard ever to be achieved is untenable. Ds’ Opp. at 2 & 27. It is completely incongruous for genetic introgression to be “the most critical hatchery issue in this consultation,” A.R. 034909, to have a maximum of 10% pHOS as a proxy for introgression that causes jeopardy (and the permissible level of take), A.R. 035182, and then to have an indefinite, potentially infinite period to achieve the allowable pHOS level. As an example of a different but still illegal approach, Judge Haggerty ruled that an ITS was arbitrary and capricious when it set the level of pHOS at 10% calculated as the mean over a three-year period, but allowed it to be measured at the end of the third year, because this would make the ITS trigger illegally “coextensive with the project’s own scope” until pHOS was measured. Native Fish Soc’y, 992 F. Supp. 2d at 1115 (quoting Allen, 476 F.3d at 1039).

As NMFS stated: “NMFS does not support, and RPA 6.1.4 does not allow, for any approach that does not meet a 10 percent or less pHOS by 2014.” A.R. 040960. ODFW asserts the Court should “give[] no weight” to NMFS’s statement to this effect in the record, on various grounds. First, ODFW asserts that given its timing, the statement was directed toward the Corps, not to it. Ds’ Opp. at 27. But ODFW seeks safe harbor under an ITS issued not to it, but to the Corps and the other federal agencies who consulted with NMFS. Second, ODFW asserts that the

statement is inconsistent with the text in a single table in the Recovery Plan. Ds' Opp. at 27 (citing Marx Dec., Ex. 7). But the Recovery Plan serves a very different purpose than the ITS: the plan provides guidance under Section 4 on criteria to recover a species, *i.e.*, to remove it from listing, Conservation Northwest v. Kempthorne, No. C04-1331-JCC, 2007 WL 1847143, at \*1 (W.D. Wash. June 25, 2007), while the ITS establishes permissible levels of take under Section 9 while the species is listed.<sup>10</sup> Finally, one of ODFW's declarants testifies that someone from NMFS told him something different in one or more meetings. Ds' Opp. at 27-28 (citing Marx Dec. ¶ 13). His testimony is inadmissible hearsay, and is not probative of anything, anyway.

C. NMFS's Approval of Alternative Actions Does Not Prove Compliance With the Maximum pHOS Level.

ODFW asserts that it is immune from liability for take because it is "in compliance" with the ITS because "NMFS has expressly approved specific alternative actions as sufficient to comply with RPA 6.1.4." Ds' Opp. at 2 & 14. In April, 2014, the Corps wrote NMFS to state how it intended to comply with RPA 6.1.4. A.R. 029804-843. The Corps listed four alternatives: (1) reduce to 707,000 the number of smolts released into the McKenzie, (2) improve homing of returning adults, by increasing use of Cogswell Creek water in the hatchery; (3) modify the hatchery ladder, to increase homing; and (4) increase wild Chinook in the basin, by improving passage at Cougar Dam and reservoir. A.R. 029805-08. The Corps asked NMFS to concur these measures would meet its duties under RPA 6.1.4. A.R. 029804. NMFS responded that it "concurs that these actions satisfy the alternative" approaches under RPA 6.1.4. A.R. 029801.

NMFS's concurrence as to possible future compliance with the conditions of the RPA, and thus the ITS, is irrelevant because it does not address whether ODFW is in compliance with the level of take specified in the ITS. With respect to the past and current exceedances of 10% pHOS that are probative that ODFW is "in violation" of Section 9, ODFW's liability for take is established by the past and present introgression (harm) caused by hatchery Chinook at levels far

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<sup>10</sup> As further evidence of their different nature under the ESA, some courts have held that Recovery Plans are unenforceable, *see, e.g., Fund for Animals, Inc. v. Rice*, 85 F.3d 535, 547 (11th Cir. 1996), while by contrast there is no question that an ITS is enforceable.

greater than the 10% pHOS level with which ODFW must comply to avail itself of the ITS's safe harbor. See Stout, 869 F. Supp. 2d at 1280–81. To the extent ODFW relies on NMFS's concurrence to prove that take in excess of the 10% pHOS level is not likely in the future, that is an issue regarding the appropriate relief for its violation of Section 9. Id. at 1281.

Regardless, ODFW is incorrect that NMFS's opinion is dispositive. As the Ninth Circuit has made clear, it is the "action agency" such as the Corps that has the substantive duty under Section 7 to not cause jeopardy, and the action agency remains potentially liable for causing jeopardy, even if it is in compliance with an expert agency's RPA. San Luis & Delta-Mendota, 747 F.3d at 592 & 643 (Bureau of Reclamation remains potentially liable for jeopardy to delta smelt from its water diversions even though the Bureau stated it would comply with RPA). For example, in Pyramid Lake Paiute Tribe v. Webb, 898 F.2d 1410, 1415 (9th Cir. 1990), the Ninth Circuit stated that "while consultation with the [Fish and Wildlife Service] may have satisfied the Navy's [the action agency's] *procedural* obligations under the ESA, the Navy may not rely solely on a FWS biological opinion to establish conclusively its compliance with its *substantive* obligations under section 7(a)(2)." Id. (italics original). Instead, "[a] federal agency cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species; its decision to rely on a [] biological opinion must not have been arbitrary and capricious." Id. By contrast, as an expert agency under the ESA, NMFS's "actions, or lack thereof, in preparing opinions are relevant on appeal to the extent that they demonstrate *the Navy's* reliance on the reports is 'arbitrary and capricious.'" Id. (italics original) (citing Stop H-3 Assn. v. Dole, 740 F.2d 1442, 1460 (9th Cir. 1984) (ruling that expert agency opinion is not determinative of claim that action agency jeopardized species)).<sup>11</sup>

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<sup>11</sup> An expert agency is not a necessary party to a challenge to an action agency's compliance with Section 7. For example, in Sierra Forest Legacy v. U.S. Forest Service, 598 F. Supp. 2d 1058 (N.D. Cal. 2009), the plaintiffs sued the Forest Service, as well as NMFS and the Fish and Wildlife Service, over their respective roles underlying the Forest Service's decision to amend forest plans in the Sierra Nevada to change wildlife standards. Id. at 1062-63. The Forest Service had determined that the amendments would have "no effect" on listed species, and the Services, by letter, concurred. Id. The plaintiffs alleged that the concurrences were arbitrary and capricious. Id. at 1063. The district court dismissed the plaintiffs' claims against the Services, in

Here, ODFW—as a third-party, not even an action agency--cannot shield itself from liability for past and present take based on any possible efficacy of future alternatives. The alternatives are relevant as to whether exceedances of 10% pHOS will persist. But as McKenzie Flyfishers established in their opening brief, with little or no factual opposition from ODFW, the alternatives are very unlikely to achieve a pHOS of 10% or less anytime in the near future. Plfs’ Open Br. 28-34.<sup>12</sup>

D. The Alternatives Are Untested, Speculative, or Uncertain.

The Ninth Circuit has repeatedly stressed that an overarching mandate of the ESA is “institutionalized caution,” Arizona Cattle Growers, 606 F.3d at 1167, and that “the highest of priorities and the benefit of the doubt [must be given] to preserving endangered species.” Defenders of Wildlife v. Flowers, 414 F.3d 1066, 1074 (9th Cir. 2005). ODFW proposes no institutionalized caution. Instead, it proposes experimental or hypothetical alternatives to achieve pHOS that have not been proven to work, and whose efficacy will be unknown for years.

At the outset, the parties dispute the burden of proof as to further releases of hatchery fish into the basin. If the Court concludes that take has occurred or is occurring, and the ITS does not cover smolt releases that are likely to cause more take, ODFW should have to prove that what it proposes to release will not cause further take. Yes, it is in the context of Section 7 of the ESA that the Ninth Circuit held that “[p]lacing the burden on the acting agency to prove [that an ongoing] action is non-jeopardizing is consistent with the purpose of the ESA and what we have termed its ‘institutionalized caution mandate[ ].’” Wash. Toxics Coal. v. EPA, 413 F.3d 1024, 1035 (9th Cir. 2005). But the logic behind the rule is that “[t]he purpose of the consultation process . . . is to prevent later substantive violations of the ESA.” Id. By contrast, a court may allow “agency actions to continue during the section 7(a)(2) consultation process only if the

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part on the ground that “[n]othing in their concurring opinions limits the extent of the Forest Service’s obligation to comply with the ESA.” Id. at 1069. By contrast, the district court stated that “[i]f the Forest Service attempts to rely on the concurrences in defending its own actions, Plaintiffs may challenge the legitimacy of the concurrences in that context, just as they might seek to undermine any other evidence the Forest Service introduces in its defense.” Id.

<sup>12</sup> ODFW also proposes trapping at Leaburg Dam, and releasing smolts only in the winter.

actions are non-jeopardizing to the protected species and will not result in a substantive violation of the ESA.” *Id.* (emphasis added). It makes no sense that if McKenzie Flyfishers proves a substantive violation of Section 9, instead of proving merely a procedural violation of Section 7 that might result in a substantive violation, that only the latter shifts the burden of proof.

Below, McKenzie Flyfishers summarize the parties’ positions on ODFW’s six alternatives to achieve pHOS.

1. ODFW Does Not Even Attempt To Defend the Cogswell Creek “Hypothesis.”

ODFW does not disprove any of the multiple absurdities underlying its assertion that it will reduce pHOS by attracting hatchery fish into the hatchery by better distributing water from Cogswell Creek when they are reared, including: (1) this is an “experiment” based on “a hypothesis at this point,” Sharpe Dep. 64:3 & 62:8, (2) no “peer reviewed publications or studies []demonstrate that the distribution of a source of water in a hatchery will result in a higher attraction rate to the hatchery among returning hatchery adults,” *id.* at 62:4-8; and (3) “during the low flow summer months” when experimenting with distributing water from the creek is most needed, “Cogswell Creek is almost dry.” A.R. 030744; Plfs’ Ex. D at 33; Declaration of Ted Labbe, ¶ 16 (Dkt. #86) (1.8 cfs and 0.65 cfs on July 14 & 27, 2014).

2. The Efficacy of Modifying the Ladder Will Not Be Known for Years.

“Poor attraction of adults to McKenzie Hatchery” has historically exacerbated genetic introgression among hatchery and wild Chinook. A.R. 036108. In August, 2014, ODFW modified the hatchery ladder, and found that in the next few weeks more fish returned into the hatchery than during the same period in the prior 13 years. Sharpe Dep., Ex. 203 at 6. 1,274 fish, or 47% of returns in 2014, did so then. *Id.* But in 2010, 2,717 fish, or 41% of returns in that year, did so then, before the ladder was modified. *Id.* Mr. Sharpe admitted that the difference between these figures could be “within expected fluctuations of data that is independent of any effect of the modified hatchery ladder.” Sharpe Dep. 18:10. He also admitted that changing the ladder might make it more attractive to wild Chinook too. *Id.* at 17:3-5.

Regardless, ODFW does not dispute the findings of the consultants who first reported on this experiment that “there is no guarantee of the performance in any particular year, and the

performance may vary year-to-year depending on river flows and other measures outside the control/influence of any of these alternatives. The overall effect of implementing [changes such as modifying the ladder] will not be known until several years of monitoring and return data have been collected.” A.R. 040906; accord Declaration of Dr. Christopher Frissell, ¶ 21 (Dkt. #80) (“It will take a number of years before any apparent changes to hatchery attraction rates can be judged significant or not.”). In Native Fish Soc’y., when he considered measures to reduce pHOS from hatchery fish in the Sandy River basin, Judge Haggerty noted that when the effectiveness of acclimation and other alternatives measures “would not be known for four to five years,” it resulted in “significant uncertainty regarding the efficacy” of an HGMP that was predicated on those measures. Id., 992 F. Supp. 2d at 1110. Here, changes to the hatchery ladder cannot be a basis for valid assumptions that a meaningfully greater percentage of hatchery fish will in fact return to the hatchery and, therefore, that pHOS will be reduced.

3. Achieving Downstream Passage at Cougar Dam is an Experiment.

The third alternative to achieve the pHOS standard is to increase the wild Chinook population by achieving far better downstream passage at Cougar Dam and reservoir. Restoring the run in the South Fork is important, but it is still an experiment. Downstream passage of juvenile fish through the reservoir and dam is poor—too low to support a self-sustaining, naturally-produced population. Sharpe Dec., ¶ 22. The Corps is studying passage. Outplanting is meant to produce enough juveniles to assess passage under various scenarios, and generate adults to assess spawner replacement rate over the life cycle. These studies are expected to take years, after which outplanting will end, if passage is achieved. A.R. 000098. Thus, outplanting is important mostly in the near-term. Since reducing releases this year will not materially affect adult returns until 3-4 years later, it will have no effect on this effort until then. Meantime, 360,000 smolts will generate returning adults to support the project after that time, while keeping pHOS as low as is consistent with this effort.

4. Trapping at Leaburg Dam is Likely to Harm Wild Chinook.



ODFW's model to predict pHOS relies on removing 100 hatchery fish at the south bank fish ladder at Leaburg Dam to achieve its results.<sup>13</sup> See Sharpe Dep. Ex. 203 at 4 & 8. But in its brief and supporting declarations, ODFW does nothing to disprove that operating a trap will likely further harm wild Chinook and exacerbate pHOS. Previously, ODFW operated a trap only in the "late run time, while the number of wild fish is very low at Leaburg Dam," meaning the last few days of August and into September, and did so then to collect broodstock for the hatchery, not reduce pHOS. A.R. 000012; Thomason Dec., Ex. E. ODFW now intends to operate the trap beginning July 1, because that will enable it to "reach our target of about 100 [hatchery] fish removed," on the theory that that is "the latter end of the [wild] salmon run" when it can "remove [] predominately hatchery-origin fish." Sharpe Dep., Ex. 201 at 3. Sharpe Dep. 24:19-25:9; Sharpe Dec. ¶ 18. McKenzie Flyfishers proved that July is actually one of the two months when the greatest number of wild Chinook pass the dam, greatly exceeding hatchery fish.<sup>14</sup> They proved that operating a trap can cause significant harm to wild fish, by delaying upstream migration, or causing them to avoid the ladders altogether. Frissell Dec. ¶ 25. Pre-spawning mortality is already estimated to be as high as 24% below Leaburg Dam. Plfs' Ex. F at 12 (2013 estimates). NMFS found that "any additional handling, stress for spring Chinook that hold for extended periods before spawning is of greatest concern, particularly since prespawning mortality is a huge problem in the Willamette." A.R. 030732 (emphasis added). In 2008 BiOp, NMFS stated: "Over the last few years, efforts were conducted to remove hatchery Chinook from the ladder at Leaburg Dam in order to reduce hatchery fish spawning in the wild. However, the ladders on Leaburg Dam are not adequate for sorting out hatchery fish without having significant impacts to commingled wild fish. Due to these wild fish concerns, the efforts to remove hatchery

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<sup>13</sup> As Mr. Sharpe testified, the model merely "assumes we're operating the trap at Leaburg. And the only effect is the positive effect of removing a significant number of hatchery fish, a substantial number of hatchery fish." Sharpe Dep. 28:25-29:6 (emphasis added).

<sup>14</sup> It is undisputed that in July, 2011, 1,223 unclipped and 169 clipped Chinook were counted at Leaburg Dam; in July, 2012, 733 unclipped and 101 clipped Chinook were counted; and in July, 2013, 318 unclipped and 47 clipped Chinook were counted. Thomason Dec., Ex. C.



fish were discontinued." A.R. 034910 (emphasis added). Avoidance or delay due to trapping at the dam is in fact likely to exacerbate pHOS below the dam, which is significant because the proportion of Chinook spawning below the dam has been increasing over the last decade, roughly doubling to about 20-25% of the current total. Thomason Dec., Ex. B.

ODFW does not dispute any of these facts or findings. It asserts simply that a trap at Leaburg Dam is "covered" by the ITS. Ds' Opp. at 22. But, as explained above, it is achieving the level of incidental take prescribed by the ITS and RPA that can insulate ODFW from take liability, not simply undertaking or proposing alternatives that may, or may not, achieve that level. Moreover, the ITS anticipates "hatchery fish sorting" at Leaburg Dam, not trapping, and does not specify any amount of take for sorting, likely because the possible sorter had not been determined to be feasible. A.R. 035265 (emphasis added). By contrast, the ITS covers the Cougar trap, by specifying the "amount and extent" of take at the trap. A.R. 035246. ODFW fails in its opposition brief and supporting materials to disprove that operating a trap will not further harm wild Chinook and likely worsen pHOS, either by causing pre-spawning mortality of wild Chinook, delay or avoidance that leads them to spawn below Leaburg Dam, or both. And it fails to prove that the ITS covers its planned trapping operations.

5. The Effect of Seasonal Changes in Releases is Unknown.

This is the first release year in which ODFW will stop releasing hatchery smolts in the fall and release them instead in January and February. There are no firm data to prove that this will work to meaningfully increase the number of hatchery adults that return to the hatchery. It is yet again an experiment whose efficacy cannot be proven for years.

6. McKenzie Flyfishers Alone Proposes a Justifiable Number of Smolts.

The sixth and most important alternative is reducing hatchery smolt releases from historic amounts. ODFW and McKenzie Flyfishers contend that the number of smolts each proposes for release—605,000 and 360,000, respectively—is necessary to have enough adults return to meet conservation goals. In this section, McKenzie Flyfishers first explains its position. Second, it explains how ODFW overstates the number of needed returning adults, the magnitude of which depends on which version of ODFW's goal is considered, since it appears to have different

versions. Most important, McKenzie Flyfishers shows that ODFW's unnecessarily excessive number of released smolts and returning adults is likely to cause significant PHOS exceedances.

a. McKenzie Flyfishers' Position.

McKenzie Flyfishers used a simple and reliable method to calculate the number of smolts needed to produce returning adults to meet justifiable conservation purposes.<sup>15</sup>

The "conservation purposes" of the hatchery are two-fold: produce enough smolts to outplant adults above Cougar Dam, and enough for broodstock. A.R. 000018. To restore a wild Chinook run in the South Fork McKenzie, 600 adult fish—400 females and 200 males—are to be outplanted above the dam. A.R. 000059.<sup>16</sup> The strong preference is these will be wild (unclipped) Chinook. A.R. 035183. From 2010-2014, an average of 107 unclipped females returned to the base of the dam and were transported above it. Thomason 2nd Dec., Ex. A at 1. Based on these data, an average of 400 minus 107, or 293 females, need to return to the hatchery to outplant above the dam. Since females comprise 43% of adults that return to the hatchery, Sharpe Dec. at 32, table 6, 681 adult Chinook need to return to the hatchery for outplanting.

To have 681 adults return to the hatchery, about  $681/4,839 \times 1,141,273$  smolts = 160,613 smolts need to be released.<sup>17</sup> Frissell Dec. ¶ 14; Thomason 2nd Dec., Ex. B at 1, columns A and

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<sup>15</sup> McKenzie Flyfishers' calculations are based on data provided primarily by ODFW (unless otherwise stated), and developed by methodologies such as arithmetic. See, e.g., Thomason 2nd Dec. ¶¶ 2-5. ODFW asserts that "these calculations are unsupported by any admissible evidence in the form of expert or other testimony that can be tested," Ds' Opp. at 29, but it does not point out any error in the data presented, it does not assert that using arithmetic is inappropriate, and, most fundamentally, it does not assert that any of the calculations are wrong. These calculations are no different than the declaration testimony ODFW files from Jeffrey Ziller and Steven Marx, for whom ODFW did not serve initial or rebuttal expert disclosures. Further, ODFW does not timely move to strike any part of Mr. Thomason's first declaration; instead, it moves to strike paragraphs in Dr. Frissell's first declaration where he critiques its model. Ds' Opp. at 29 n.7. McKenzie Flyfishers timely responds to its motion in section F.

<sup>16</sup> When fewer than 400 unclipped females return to Cougar Dam, outplanting above the dam will be supplemented with enough hatchery females to reach that number. A.R. 000097.

<sup>17</sup> The mean average (recent) return rate of hatchery adults to the hatchery is 0.42% of the number of smolts released. Frissell 2nd Dec. ¶ 14; Thomason 2nd Dec., Ex. B at 1, column B.

B. However, adult returns to the hatchery vary from year to year, due to changes in environmental and other conditions, so to consistently achieve 681 returning adults (including 293 females) even in most low return years, requires the release of more than 160,613 smolts.<sup>18</sup> McKenzie Flyfishers examined adult returns from 2002-2011 to assess how many smolts need to be released to assure at least the 293 females for outplanting, and the females to use in broodstock to produce them, return to the hatchery at least 50-75% of the time.<sup>19</sup> They also assessed the magnitude of any shortfall when the target of females was missed. If 360,000 smolts are released, then 80% of the time, at least 293 female adults for outplanting plus 133 female adults for broodstock (total 991 adults, including 426 females) would return to the hatchery. Thomason 2nd Dec., Ex. B at 1, column G. Importantly, in the 20% of years when the 426 returning female adult goal would be missed, the magnitude of the shortfall is small—less than 5%. Id.

If 360,000 smolts are released, and fishing continues in the McKenzie River, on average, 1526 adults (656 females) should return to the hatchery. Thomason 2nd Dec., Ex. B at 1, column C. By contrast, if fishing is discontinued, about 1843 adults (792 females) should return to the hatchery. Id., column F. Thus, in most years, with a release of 360,000 smolts, a substantial excess over the goal of 991 returning hatchery adults will return to the river. However, that excess is a consequence of ensuring that enough adults return to the hatchery in low return years to meet legitimate conservation goals.

b. ODFW's Positions.

ODFW's declarants state different smolt release goals and justifications. Steven Marx attaches as an exhibit a Dec. 2014 proposed HGMP, which states that ODFW intends to release

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<sup>18</sup> For the 10-year period of 2002-2011, variation in return numbers was almost solely due to differences in return conditions rather than in smolt release numbers. Frissell 2nd Dec. ¶ 13.

<sup>19</sup> ODFW predicts that one female brooder can produce 2700 smolts, Marx Dec., Ex. 3 at 56, so 133 females are required to produce 360,000 smolts..

In the 20% of years when the 426 returning female adult goal was missed, the magnitude of the shortfall was small—less than 5%. Thomason 2nd Dec., Ex. B at 1, column G.

605,000 smolts, to produce returning hatchery adults for use in these priorities: First, 450 adults (including 225 females) would be used for broodstock. Marx Dec., Ex. 3 at 56.<sup>20</sup> Second, 600 adults would be produced to total 400 females and 200 males to outplant above Cougar Dam. Id.<sup>21</sup> Third, 120 adults (52 would be females) would be used to outplant above Trail Bridge Dam. Id. Fourth, 100 adults (43 would be females) would be used to outplant into the Mohawk River. Id. Accordingly, ODFW's plan in the HGMP is to release enough hatchery smolts to generate  $225 + 400 + 52 + 43$ , or 720 female adults returning to the hatchery. Given that 43% of returning adults are female, to carry out this plan, ODFW needs to achieve  $720/0.43 = 1674$  total female and male returning adult Chinook.

By contrast, ODFW's model states a goal of 317 females for outplanting above Cougar Dam, 224 returning females for broodstock, and 60 females for outplanting above Trail Bridge Dam, for a total of 601 females. Sharpe Dec. at 32, table 6. (The model does not mention outplanting into the Mohawk River.) Given the sex ratio of 43% of returns, 601 females would be obtained from a total of 1,398 adults. So the HGMP states a goal of 720 females among 1,674 adults returning to the hatchery, and the model states a goal of 601 females among 1,398 adults doing the same thing.

Regardless of which of the two goals ODFW hopes to achieve, in the context of pHOS, both would cause an indefensible number of returning hatchery adults. First, 600 adults are not needed to return to the hatchery to outplant above Cougar Dam, when on average 107 unclipped females and 166 unclipped males have returned to the base of Cougar (and were transported above it) over the last five years.<sup>22</sup> Second, 120 hatchery adults are not needed to outplant above Trail Bridge, as McKenzie Flyfishers established in its opening brief, and which ODFW does not

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<sup>20</sup> Note that to have 225 returning females would require  $225/0.43 = 523$  total adults, not 450.

<sup>21</sup> Note that to have 400 returning females would require  $400/0.43 = 930$  total adults, not 600.

<sup>22</sup> ODFW's model accounts for some but not all of these unclipped fish; it assumes an average return and transport of 83 females at Cougar Dam, but that number does not include all five years of available data, *i.e.*, from 2010-2014, which show that an average of 107 females returned to the trap and were transported. Thomason 2nd Dec., Ex. A at 1.

refute in its opposition brief.<sup>23</sup> Third, as for 100 adults to outplant into the Mohawk River, this new justification, which was not even proposed as recently as the February 2014 HGMP or October 2014 HGMP, is indefensible. The Mohawk is not within designated critical habitat for the ESU, A.R. 035973, and the Recovery Plan notes that it has significantly impaired habitat, A.R. 033492, 033741, but otherwise never mentions or ranks the Mohawk River as to recovery wild Chinook. That may be because the Mohawk River is virtually unsuitable as habitat for wild Chinook: the Oregon Department of Environmental Quality has designated the Mohawk River as “water quality limited” under the Clean Water Act for the parameters of dissolved oxygen, pH, alkalinity, ammonia, chloride, manganese, phosphorous, E.coli, sediment, temperature, and overall habitat modification.<sup>24</sup> Frissell 2nd Dec. ¶ 20 (the river is unsuitable for wild Chinook because of these conditions).

Accordingly, using the correct figure to supplement unclipped returns to Cougar Dam (293 females), and subtracting adults for outplanting above Trail Bridge Dam and into the Mohawk,  $293/0.43$ , or 681 adult hatchery Chinook of both sexes need to return to the hatchery for outplanting above Cougar.

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<sup>23</sup> In a one-sentence footnote, ODFW asserts that outplanting above Trail Bridge Dam is an “important part” of its program. Ds’ Opp. at 25 n.6 (citing Declaration of Jeff Ziller, ¶ 4). In fact, during his deposition, Cameron Sharpe testified that this is “just something that’s tacked on to our program” and a “minor component of the outplanting program until some very significant changes happen on the dam itself for fish passage.” Sharpe Dep. 38:17-18. EWEB has not changed anything on Trail Bridge Dam to facilitate upstream or downstream migration. Meantime, planting hatchery fish that high in the river system can cause “serious” harm to wild Chinook. Frissell 2nd Dec. ¶ 7. Dr. Frissell explains:

Offspring of these Chinook that survive and return to spawn will likely interbreed with wild Chinook above Leaburg Dam, potentially harming fitness, survival, and productivity in what is currently the reach that is designated as the locale where hatchery influences on wild Chinook should be minimized. The genetic breach caused by proposed stocking above Trail Bridge Dam cannot be mitigated by stopping and removing fish at Leaburg Dam, because the returning adults with hatchery stock parentage (stocked above Trail Bridge) will not be marked and cannot be distinguished from wild Chinook.

Id.

<sup>24</sup> <http://www.deq.state.or.us/wq/assessment/rpt2012/results.asp> (last visited Jan. 19, 2015).

The real reason for ODFW's excessive smolt releases is to continue recreational fishing. ODFW admits its goal is to have 1,000 hatchery fish available to be caught in the river. Ds' Opp. at 30. That is consistent with the alternatives, which were explicitly designed to "maintain hatchery production levels to support reintroduction and to maintain ODFW's annual McKenzie River harvest goal of 1,000 adult hatchery spring Chinook in most years." A.R. 029806. It is also consistent with the Dec. 2014 HGMP, which states that the "hatchery spring Chinook program provides harvest opportunities in the McKenzie River . . . . The harvest goal for the McKenzie River sport fishery is 1,000 CHS." Marx Dec., Ex. 3 at 8 (citation omitted).<sup>25</sup> But an important fact is that to have 1,000 fish actually caught, many more than that need to be present in the river. Sharpe Dep. 15:8.

ODFW asserts that its fishery goal "is not reflected in, and has nothing to do with, the model" it uses to predict pHOS. Ds' Opp. at 30 (citing Sharpe Dec. ¶ 30). Although its model does not explicitly re-state a goal for harvest in the McKenzie River itself, it does include calculations of harvest levels of 10% and 15%, respectively, of total adults in the ocean and in freshwater. Sharpe Dec. at 32, table 6. In other words, the model for releasing 604,500 smolts includes estimating 15% of hatchery adults caught in freshwater, including in the McKenzie. Indeed, as of today, the recreational fishery is open for clipped Chinook in the McKenzie as in years past. Plfs' Ex. K at 5 (ODFW's 2015 fishing regulations). And as ODFW admits, to have 1000 fish available to be caught, many more need to be present in the river. Sharpe Dep. 15:8.

As for pHOS, releasing 605,000 smolts would result in an average return to the hatchery of 2565 adult Chinook, even if fishing continues. Thomason 2nd Dec., Ex. C at 1. Assuming ODFW is correct that the hatchery collection rate is 82%, releasing 605,000 smolts would leave at least 18%, or 563 stray adults to contribute to pHOS. By contrast, releasing 360,000 smolts would leave an average 335 of stray adults to contribute to pHOS. The difference is meaningful.

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<sup>25</sup> Obviously, caught fish do not return to the hatchery. From 2002-2011, an average of about 1,224 hatchery salmon were caught (harvested) in the McKenzie River. Frissell 2nd. Dec., Ex. B at 1 and Ex. C at 1. Assuming 43% of these caught fish were female, about 526 females were on average caught each year.

A 68% higher number of stray hatchery adults will lead to about 45% higher pHOS than would likely be observed from release of 360,000 smolts. See A.R. 029821 (methodology showing pHOS difference from 50% vs. 70% reduction in historical smolt releases of 1.2 million). Such higher pHOS values will inflict greater harm on wild Chinook salmon population. Luikart 1st Dec. ¶ 50. This greater harm is entirely avoidable, given that McKenzie Flyfishers proves that 360,000 smolts are more than sufficient to satisfy justifiable conservation goals.

c. ODFW's Model Proves Further Take.

If ODFW's model instead of the latest proposed HGMP accurately frames all of the reasons why ODFW wants to release 605,000 smolts, it nonetheless fails as an analytical basis to estimate resulting pHOS levels from that number of releases. But at the outset, the Court should note that even if the methodologies in the model are defensible and its data are correct, even under ODFW's predictions, pHOS would be 10% or less only 61% of the years. Sharpe Dec., table 6. In other words, ODFW projects that if 605,000 smolts are released annually into the McKenzie River basin, the permissible take level will be violated nearly four of every ten years.

To put these predicted recurring violations in biological perspective for wild Chinook in the McKenzie River basin, any year in which pHOS is over 10% can cause lasting damage to the genetic integrity of these fish. Consistent with NMFS's finding that pHOS should be reduced to the "lowest extent possible (0-10%) in order to restore this population," A.R. 035182, Dr.

Frissell declares:

To recover the wild Chinook population in the McKenzie River basin, a pHOS of 5% or less would significantly more likely attain the desired outcome of recovering wild Chinook, based on recent seminal published analyses made across multiple salmon populations in the Pacific Northwest by Chilcote (2013), wherein the data and fitted curve forms indicate that the largest incremental impacts on wild population productivity occur at pHOS between 5% and 15%. I recognize the efficacy of the 10% pHOS standard is not now at issue, but I want to underscore the significant harm that occurs at pHOS higher than 10%. Even if it occurs once every few years, it is likely to inflict enough harm to a wild salmon population that its capacity to rebuild can be significantly compromised.

Frissell 2nd Dec. ¶ 4 (emphasis original).



As to the efficacy of ODFW's model, Dr. Christopher Frissell critiques the model in his second declaration. He sums its flaws as: 1) pHOS projected by ODFW's goals exceeds 10% in many years, and biological harm inflicted during these years is likely to be lasting; 2) The goal of stocking adult Chinook above Cougar Dam is not sufficiently described and justified, and the goals for stocking above Trail Bridge Dam, and in the Mohawk River, are not only entirely unjustified, but highly likely to be harmful; inflation of these goals inflates the number of hatchery Chinook smolt releases and reduces substantially the likelihood of achieving the pHOS standard; 3) Through erroneous age at return assumptions, ODFW's model exaggerates the apparent variability of adult hatchery salmon returns, increasing the perceived number of years that ODFW's goal will not be met, justifying a higher than needed smolt release; 4) ODFW's reliance on expansion from coded wire tag (CWT) data instead of relying on more direct empirical smolt-to-adult-return data results in consistent underestimation of adult returns for a given smolt release, biasing the apparent smolt release requirement upward; using CWT data further exaggerates the variance and apparent number of low-return years; 5) Assumed harvest rates, without examination or justification, in fact lock in much higher hatchery smolt releases than would be necessary if harvest were reduced; 6) ODFW's claim that it can increase the capture efficiency of returning hatchery adults by reducing smolt releases is not supported by the data within the relevant range, and their estimate of capture efficiency appears to be biased high, resulting in artificially lowered expectation of pHOS for a given number of smolts released; 7) ODFW fails to evaluate and account for likely adverse effects of its planned trapping operations at Leaburg Dam on wild Chinook movement, spawning and survival; thereby ODFW neglects that an action that intends to reduce pHOS may in fact increase it as a result of direct harm to the core of the wild population. Frissell 2nd Dec. ¶ 18. Dr. Frissell declares:

The sum effect of each of the several separate factors summarized above is to bias the perceived number of hatchery smolts required upward, and bias the expected pHOS estimate downward. Cumulatively, these several small to moderate biases lead to a much larger and consistently irrational overall bias, to the degree that ODFW's model and calculations are in my opinion, both misleading and unreliable.

Id. ¶ 19.



ODFW argues that a smolt release size of 605,000 “will only provide enough adults for reintroduction in half the modeled years.” Ds’ Opp. at 17 (citing Sharpe Dec. ¶ 29). In paragraph 29 of his declaration, Mr. Sharpe does not specify whether, when he uses the term “reintroduction,” he means enough returning adults to outplant above Cougar Dam alone, or above Trail Bridge Dam and into the Mohawk River as well. Sharpe Dec. ¶ 29. Mr. Sharpe does refer to table 2 of his declaration as his data source, *id.*, but that table appears to have nothing to do with how frequently any number of hatchery adults will return to the river. *Cf.* Sharpe Dec. at 28, table 2. If Mr. Sharpe means table 6, that is the “model,” and Dr. Frissell explains why its estimates of returning adults are erroneous. Frissell 2nd Dec. ¶¶ 8-11 and 15-16.

Regardless, ODFW is incorrect that its goal of 601 females—which itself is more than actually required for conservation—would be met only 50% of the time. Using the most accurate method for calculating the number of returning adults, as demonstrated by Dr. Frissell, Frissell 2d Dec. ¶¶ 12-14, during the recent period for which the best data is available, a release of 605,000 smolts would generate an average return to the hatchery of 2565 adults, with a range of 1341 to 3697 adults. Thomason 2nd Dec., Ex. C at 1. Since 43% of returns are female, an average of 1103 and a range of 577 to 1590 females would return under this release scenario. Correctly calculating the number of returning females each year shows they would exceed the model's goal of 601 female returns about 90% of the time.

E. The Court Should Deny ODFW’s Motion to Strike.

ODFW moves to strike paragraphs 26 to 32 in Dr. Frissell’s declaration, in which he critiques ODFW’s model, on the ground that his opinions were not “disclosed in his rebuttal expert report.” Ds’ Opp. at 29 n.7. The Court should deny the motion. As the Court is aware, in discovery, ODFW sought to disclose not expert reports, as McKenzie Flyfishers did, but instead expert “disclosures” under Rule 26(a)(2)(C). On Oct. 17, 2014, ODFW served a single, five-page list of disclosures from one expert, Cameron Sharpe. *See* Plfs’ Open Br., Ex. G, Sharpe Dep., Ex. 201. Mr. Sharpe disclosed general items of prospective testimony, without specificity, and without citation or reference to any specific document, in the administrative record or otherwise. *Id.* at 1-5. In his disclosures, Mr. Sharpe stated at item (5) that he had a “long-term dataset” he

used to “model” achieving 10% pHOS. Id. at 3. He did not disclose the data, or the model (methodology) by which he interpreted them. Id.

On October 22, 2014, counsel for the parties conferred, and counsel for ODFW said they would send the dataset and model to McKenzie Flyfishers. Second Declaration of Peter M.K. Frost ¶ 2 & Ex. A at 1-5. On October 27, Mr. Frost received by email multiple Excel spreadsheets comprising a series of tables and data with few explanatory notes, and no citations or references, and no model. Id., Ex. A at 6-16. Mr. Frost forwarded the spreadsheets to Plaintiffs’ experts, who said they could not critique them without explanations and references (like those required in an expert report). Id. On October 31, Mr. Frost wrote a letter to ODFW’s attorneys, asking for more data, as well as an explanation of “assumptions or manipulations of the data useful to understanding the structure of the model.” Id. ¶ 3 & Ex. B. After more emails and exchanges of requests and data, at 2:36 p.m. on Nov. 7 – the day Dr. Frissell’s rebuttal report was due – counsel for ODFW emailed a different “revised” dataset, accompanied by an email that stated: “It will be explained in the summary you will receive shortly.” Id. & Ex. A at 1. ODFW never sent any summary or explanation of the original or the revised dataset. Id.

In his rebuttal report, Dr. Frissell reported that he reviewed Mr. Sharpe’s original dataset, but because Mr. Sharpe’s disclosures lacked “an explanation of the specific bases for his possible testimony, or citations or references to any document, [] it is not possible to ascertain the bases for his possible testimony, or provide a meaningful response.” Id., Ex. C at 3-5. Similarly, when deposed, ODFW’s attorney handed Dr. Frissell Exhibit 101, which is the original (not the revised) dataset, and asked if he referred to it in his rebuttal report. He testified he did, and that:

I really don’t know how they are calculating their survival rate of either February or March release groups. I don’t know what factors are considered or how they’re mathematically incorporated into the estimated adult recruitment relative to the February survival rate because those are not documented here. The same with the March survival rate. Those obviously add up to the total estimated adult recruitment, so the same applies. The freshwater return after assuming ocean harvest, I assume that’s a modeled number, but it doesn’t actually say.

I would really have to look – obviously, have to hunt across graphs to get a sense of what the assumed freshwater harvest rate is, and I have not had time to do that hunt and see if that number is in here. I certainly don’t see documentation of where the freshwater

harvest rates comes from, what the original data source is for that, what assumptions are made about it, other than – I suppose it’s probably fixed, but –

I don’t know what ‘Available for specified redds’ means exactly in this context in whatever column that is. It’s the ninth column from the left . . .

And I don’t know the source of data for the 43 percent sex ratio. It’s just assumed, I guess . . . I’m not sure exactly what is meant in terms of how the fish counts are interpreted by the next column, which says ‘By BY-hatchery CHS left in river; assumes all strays above Leaburg.’ That’s kind of an inscrutable header. I don’t know what that means. And I don’t know, therefore, how the pHOS at Leaburg Dam was calculated. Therefore, I also don’t know how the pHOS in the final column to the right was calculated because it’s simply a function of the previous one and a constant.

Id., Ex. D at 3-4 (Frissell Dep. 42:7--44:5). It was not until Plaintiffs deposed Mr. Sharpe on November 19--12 days after the deadline for serving Dr. Frissell’s rebuttal--that they were able to determine more fully (through significant questioning of Mr. Sharpe) the varied meanings of data, columns, and representations in his model. Id., Frissell 2d Dec. ¶ 2 (explaining his inability to decipher datasheets, and his deposition testimony); cf. Plfs’ Ex. E (Sharpe Dep. 43:5--52:20).

The complete unfairness of ODFW’s strategy is revealed in Mr. Sharpe’s declaration, where for the first time he testifies more completely as to what the tables in the model mean, how he made some of the calculations, and what some of the bases for the numbers (or calculations) he employs. Cf. Sharpe Dec. ¶¶ 26-36. There is no apparent reason these explanations could not have accompanied his disclosures, or been incorporated in his original or revised dataset.

Under Rule 37(c)(1), a court may strike non-disclosed expert testimony, but it may admit such testimony if a failure to disclose was either substantially justified or harmless. Yeti by Molly, Ltd. v Deckers Outdoor Corp., 259 F.3d 1101, 1106 (9th Cir. 2001). As the Advisory Committee to the 1970 Amendments to Rule 26 state: “[E]ffective rebuttal requires advance knowledge of the line of testimony of the other side.” Here, ODFW – by its litigation strategy and subsequent actions -- made it impossible for Dr. Frissell to meaningfully rebut Mr. Sharpe’s initial dataset or model. Mr. Sharpe’s initial disclosures lacked a dataset and model, and contained no explanation of either. On McKenzie Flyfishers’ request, ODFW provided numerous

data, but no explanatory information, or references or citations. McKenzie Flyfishers again requested explanatory information, and got none. On the day Dr. Frissell's rebuttal report was due, ODFW provided a different dataset, and in their email, its attorneys promised "[it] will be explained in the summary you will receive shortly." They never sent a summary. When Dr. Frissell was deposed, he testified as to why he could not meaningfully discern much of the dataset. There is no evidence that McKenzie Flyfishers acted in bad faith by not having Dr. Frissell's rebuttal critique data he could not fully interpret or understand, and that were revised without a promised summary on the day his report was due. Cf. Galentine v. Holland America Line-Westours, Inc., 333 F. Supp. 2d 991, 994 (W.D. Wash. 2004) (stating "bad faith" standard for excluding challenged evidence).

Moreover, ODFW cannot prove any harm or prejudice from Dr. Frissell's critique of the model. It had roughly a month to review his testimony, and Mr. Sharpe has filed a full response, and does not declare that he had any difficulty doing so. See Sharpe Dec. ¶¶ 30-36.

F. McKenzie Flyfishers is Entitled to the Relief it Seeks.

The parties agree that to obtain an injunction, McKenzie Flyfishers must prove that future harm to wild Chinook is "at least likely." Nat'l Wildlife Fed'n v. Burlington N. R.R., Inc., 23 F.3d 1508, 1511 (9th Cir. 1994). Harm to wild Chinook is certain with pHOS levels in excess of 10%. Frissell 2nd Dec. ¶ 4.

Moreover, the injunction should remain in place until a pHOS of 10% is achieved, not as ODFW asserts only until NMFS approves any HGMP.<sup>26</sup> ODFW cites Judge Haggerty's order on relief in the Sandy River Hatchery case for the proposition that once NMFS approves an HGMP, then ODFW "is immunized from § 9 liability for all actions allowed under the HGMPs." Ds' Opp. at 35 (citing Native Fish Soc. v. Nat'l Marine Fisheries Serv., No. 3:12-cv-00431-HA, 2014 WL 1030479, \*5 (March 14, 2014)). But ODFW elides that although Judge Haggerty chose to not vacate NMFS's approval of the HGMPs for the Sandy Hatchery, he also ordered ODFW

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<sup>26</sup> As of today, NMFS has not issued a "sufficiency letter" finding that any of the numerous proposed HGMPs is sufficient enough to even begin the National Environmental Policy Act process NMFS must undertake to decide whether to approve one. Cf. Plfs' Ex. K (sufficiency letter for Sandy River Hatchery).

to reduce by over one-half the number of hatchery coho smolts that could be released into the Sandy River basin, in order to bring pHOS down from 11.7% to the allowed 5%. Native Fish Soc., 2014 WL 1030479, \*4. What indisputably matters as to recovery of wild Chinook in the McKenzie River basin is that “[i]t is necessary to reduce the effects of hatchery fish on this population to the lowest extent possible (0-10%) in order to restore this population and to be able to evaluate its sustainability without the continual infusion of hatchery spawners.” A.R. 035182.

#### VI. Conclusion.

The Court should grant McKenzie Flyfishers’ motion for summary judgment, and enjoin ODFW from releasing more than 360,000 hatchery Chinook smolts into the McKenzie River basin until a pHOS of 10% or less is achieved.

Date: January 26, 2015.

Respectfully submitted,

/s/ Peter M.K. Frost  
 Peter M.K. Frost  
 Attorney for Plaintiffs